

**PSI ENERGY, INC.'S
RESPONSE TO
IURC
ELECTRIC SERVICE QUALITY RULEMAKING
DATA REQUEST**

Reliability:

The area of reliability will include the examination of sustained outages, momentary outages, restoration of service following a sustained outage and power quality.

- 1. Is your utility participating in any EPRI (or other organizations) research projects relating to reliability or other service quality issues? If yes, please describe the project(s) you are involved in and how it relates to reliability issues addressed in this section of the data request**

Not at present.

Service Interruption and Outages

Sustained Outages:

- 1. How does your utility identify an outage? At what point does your utility consider an outage a “sustained” outage versus a “momentary” outage?**

PSI uses IEEE 1366 (*IEEE Guide for Power Distribution Reliability Indices*) guidance. An outage is a complete loss of supply where one or more customers are disconnected from PSI's electric supply. An outage is classified as a “sustained interruption” when the outage duration exceeds 5 minutes. Outages with duration less than or equal to 5 minutes are classified as “momentary events.”

- 2. Please describe the response process once an outage is identified. Has your response process changed in any way over the past 5 years? Please explain those changes. What follow-up is done after service has been restored to determine that an individual customer, once again, has electric service?**

Outages are recorded and managed with PSI's Trouble Call Outage Management System (TCOMS). The response process depends somewhat on the number of active outage cases.

Typically during times when there are only a few isolated outage cases, operators in the Distribution Control Center use PSI's TCOMS to analyze phone calls and predict the most probable location of the problem. The operator assigns the outage case to a field repair crew to identify and correct the problem. The field

crew reports restoration time to the operator who closes the outage case in TCOMS.

Verification that the customer once again has electric service comes in two ways. First, the field restoration crew verifies service is restored by visual observation and other checks, when necessary. Second, customers who report outages have the option to request callback verification that service has been restored. TCOMS sends an electronic message back to the call center when the operator closes the outage case. The call center then initiates calls to customers who requested a callback. If a callback discovers a customer is still without power, that information returns to the control center via TCOMS for follow-up restoration.

PSI has made several improvements to the outage response processes in the last 5 years. The PSI call center added Voice Response Units and automated customer callback. PSI upgraded TCOMS from a text and command based computer system to a fully integrated graphical display system, and is in the process of upgrading the graphical system to a newer version with even more features and capability. Finally, PSI continues to update and enhance the storms and natural disasters plan.

- 3. Under what conditions or circumstances does your utility report an outage to the Commission? Since January 2001, how often have you reported an outage to the Commission? How often did you provide updates on the outage and the restoration of service?**

PSI has met with the Commission Staff to discuss the storms and natural disasters plan and to discuss notification requirements. At this time, PSI notifies Commission Staff for any Level 2 or above storm as defined by PSI's storms and natural disasters plan. This notification may be with voicemail at Level 2. Level 3 and Level 4 storms require personal notification. PSI normally conducts internal storm strategy meetings during active storms and provides updates to Commission Staff after these meetings, and when the storm level changes. Since January 2001, there have been eleven storm events when PSI reported outages to the Commission Staff using the process described above.

- 4. Outages resulting from major weather events can somewhat be anticipated, please describe the weather event outage response from the time a weather situation is known or anticipated to exist through the time the last customer is brought back online. Please describe any facilities and/or procedures that are specifically used in anticipation or during a major weather event in case of widespread outages. Are the facilities and/or procedures different depending on the type of weather event, for example tornado conditions versus a potential ice storm? Are there non-weather related outage situations when these facilities and/or procedures are used?**

Whenever weather forecasts indicate weather that might cause a large number of outages, PSI makes preparations by reviewing readiness plans and developing an initial strategy. That strategy generally involves holding crews over, keeping or adding operators, and activating additional management readiness.

Should the weather actually cause significant outages, PSI activates the appropriate level of response using the storms and natural disasters plan. This plan provides response levels based on the severity and magnitude of the situation. The storm plan provides different response levels with higher numbered levels indicating increasing severity. The basic process of identifying outages, restoring outages, and verifying restoration remains about the same as described in Response 2. However, the storm plan provides appropriate management, strategy, and resources for the situation. For example, a tornado creates local devastation that may be best handled by creating a local response/management center. Scattered outages over widespread areas are better managed from the control center. A large number of cases often require damage assessment by engineers and technicians to prioritize work and maximize the use of repair crews. Use of mutual assistance requires additional organization to manage and provide for visiting crews who have no place to sleep and are unfamiliar with the area.

Severe weather events often do not affect all of PSI's territory. Therefore, there are parts of the service territory that may have non-weather related outages while PSI is managing a major storm. Those outages are handled at the same time using processes described earlier.

- 5. What other government (local, state, federal) agencies or organizations must your utility interact or communicate with during outage situations? Specifically, are there other agencies or organizations that your utility is required by law or regulation to report to or communicate with during outage situations?**

PSI must notify the Department of Energy of certain emergency incidents and disturbances as outlined in DOE's 417 procedures.

- 6. Are there other agencies, organizations or companies that your utility typically interacts or communicates with during critical outage situations? Please describe the circumstances and types of interactions or communications that occur.**

PSI interacts with local government and local Emergency Management Agencies depending upon the situation. For example, PSI stationed an employee in Martinsville's emergency command center during service restoration from the tornado in 2002. Further, PSI notifies the OUCC and the State Emergency Management Agency ("SEMA") by agreement with those agencies. PSI provides both the OUCC and SEMA the same information provided to the Commission.

PSI notifies the Midwest Independent System Operator (“MISO”) regarding transmission and generation related outages in MISO’s role of the NERC security coordinator.

- 7. What is the policy concerning the use of service crews from other utilities? Has the availability of crews or the willingness of other utilities to make crews available become more limited in recent years? Are non-utility crews being used or considered more routinely than requesting crews from neighboring utilities?**

PSI monitors emergency situations with consideration for using crews from Cinergy affiliates, using mutual assistance from other utilities and/or contractor crews. PSI participates in the Edison Electric Institute mutual assistance programs. The availability and use of crews from other utilities has remained about the same with a slight tendency to bring in outside crews earlier and/or more often. As a wholly owned subsidiary of Cinergy Corp. with nearby affiliated utilities (CG&E and ULH&P) PSI has better access to, and makes use of, affiliate crews.

- 8. What type of information does your utility typically gather/report/analyze regarding sustained outages? How is this information used in the utility?**

PSI preserves outage information in an Electric Trouble Data Mart (ET). The ET keeps outage records including equipment that was out, customers who were out, customers who called to report outages, restoration time, cause of outage, etc. ET is the source of data for analysis of sustained outages, calculating reliability metrics, trending outage information and targeting areas for reliability improvement.

- 9. Does the utility attempt to quantify the financial costs of outages to customers and local communities? If so, please explain how this is done.**

No.

Momentary Outages:

- 1. Does your utility identify and track momentary outages? How is a momentary outage identified and/or defined?**

PSI uses IEEE 1366 to identify momentary outages and tracks these outages where practical. Outages that have a duration of five minutes or less are classified as momentary events. PSI normally records momentary outages using Momentary Average Interruption Frequency Index (“MAIFI_E”), that is, multiple momentary outages in a five-minute window count as one event.

2. What type of information does your utility typically gather/report/analyze regarding momentary outages? How is this information used in the utility?

Information is gathered and reported on many, but not all momentary outages. The details of that information will vary depending on the source of the information. Momentary outages at the distribution circuit level that are identified by PSI's Energy Management System ("EMS") are recorded with the time they occur. Momentary outages that occur at the distribution circuit level discovered by monthly substation inspections are recorded upon inspection and indicated as such. The time, duration and cause of momentary interruptions found during substation inspections are normally not known. The momentary outage information is saved in the ET and used in similar ways as sustained outage information. Data is not collected or recorded for momentary outages caused by the operation of automatic devices, such as reclosers on poles that subdivide distribution circuits.

3. Other than the duration of the outage, are there operational or characteristic differences in a sustained outage versus a momentary outage?

Yes. Many problems that cause outages are temporary in nature, with lightning being a prime example. Electric systems are generally designed to allow for one or more brief outages with equipment installed to automatically attempt to restore service without human intervention. These automatic sequences are normally complete within five minutes of the initial outage. This is the basis for classifying a momentary outage to be five minutes or less. Sustained outages normally require dispatching field restoration crews and therefore outage durations in excess of five minutes.

Performance Measures and Statistics

1. Typical reliability performance statistics include SAIDI, CAIDI, SAIFI, etc. Does your utility routinely calculate these statistics? How is each of the variables in each of the calculations defined? Are these statistics calculated as part of your outage management system or through some other means?

PSI calculates SAIFI and CAIDI on a rolling twelve-month basis. PSI calculates these statistics with and without Level 3 & 4 storm related outages using IEEE 1366 guidance. PSI also calculates SAIDI and Average Service Availability Index ("ASAI") using SAIFI and CAIDI values. The statistics are calculated using IEEE methods and analysis tools on data in ET.

2. Are there other reliability statistics your utility calculates? What are they? How are they calculated? How are the variables used to calculate them defined? Are these statistics calculated as part of your outage management system or through some other means?

PSI also calculates SAIDI and ASAI using data recorded in ET. Both of these are derived from SAIFI and CAIDI.

$$\text{SAIDI} = \text{SAIFI} \times \text{CAIDI}$$

$$\text{ASAI} = (8760 - \text{SAIFI} \times \text{CAIDI}) / 8760$$

PSI also uses MAIFI for individual circuit level analysis.

- 3. Does your outage management system calculate other reliability statistics that your utility does not routinely review? What are these statistics? How are they calculated? How are the variables used to calculate them defined?**

No, the outage management system does not calculate reliability statistics.

- 4. Reliability statistics are often calculated excluding storms or other major outage events. What are the advantages and disadvantages to excluding storms or other events? Do reliability statistics typically calculated by your utility include or exclude storms or major outage events? If these events are excluded, how do you determine when to exclude an outage event? How do you define the different levels of outage events?**

PSI calculates reliability statistics with and without major storm outages. PSI identifies major events as Level 3 and Level 4 storms as defined by PSI's storms and natural disasters plan. This dual approach attempts to determine PSI's performance for normal weather including "routine" storms and PSI's performance during major events

- 5. How do service territory differences (e.g., rural versus metropolitan, high industrial concentration versus more residential) affect the calculation of reliability statistics? What statistic, if any, is most indifferent to the service area characteristics, in other words, what statistic(s) would most likely allow relevant comparisons among a wide variety of utility types?**

Service territory differences do not affect the calculation method for reliability statistics, but they do have a large impact on results of those calculations. Differences in customer density, rural vs. urban territories, terrain, and system design can and do have large effects. For example, areas that are served with network configurations (generally more concentrated areas) generally will show better reliability statistics. Furthermore, weather variations from year to year, in PSI's experience, cause the most significant differences in reliability statistics. None of the reliability metrics in IEEE 1366 are designed to properly account for differences among utility service territories or regional weather variations.

- 6. Can the calculation of reliability indices be standardized among Indiana utilities? Please explain how that might be done.**

Calculation of reliability indices such as SAIFI, CAIDI could be standardized. It would be possible to standardize such calculations using IEEE 1366 guidance. However, it is not necessary to use all of the IEEE statistics and there may well be valid reasons for different utilities using different reliability statistics.

7. Should utility size or other characteristics be taken into consideration when evaluating the reliability statistics from a company?

Utility size, service territory, weather (including number of storms, types of storms, and heavy vegetation growth due to wet growing seasons), customer density and other factors should be taken into account when evaluating reliability statistics. Areas of low customer density often have fewer customers per length of line, more miles of line exposure per customer, and locations of repair crews may be more distant. All of these can effect reliability statistics and each utility will have a different mix of service areas.

8. Are performance evaluations and the resulting compensation for any individual, groups of individuals or divisions of the utility tied to reliability statistic results? Please explain what reliability statistics are used and who is evaluated based on the results of those statistics. How are the acceptable levels of performance set and what are those levels?

A portion of compensation for executives and managers responsible for PSI's transmission and distribution system is tied to the SAIFI and CAIDI statistics without Level 3 and Level 4 storms. In some cases compensation relates to overall performance, while in other cases, specific contribution by region and/or system is considered. The performance targets are more designed to provide an incentive rather than simply setting an acceptable performance level.

Worst circuits

In order to prevent utilities from having “pockets” of poor service reliability, some state commissions require utilities to report the top 10-25 worst circuits and then address those problem areas.

1. Are there areas of your utility's service territory that are more prone to outages, either sustained or momentary, or other reliability problems, such as power quality, than others? How does your utility address this type of problem?

Rural areas tend to be more prone to outages than urban areas. This is true for momentary and sustained outages. Network configurations in major cities have much fewer outages. Since a majority of power quality problems originate in customer buildings, power quality problems tend to depend more on building owners than service territory.

PSI monitors individual circuit performance and individual device performance on distribution circuits to identify repeating outages that would indicate which areas are more prone to sustained and momentary outages.

2. What are the advantages of identifying the top worst performing circuits of a utility?

Identifying the worst performing circuits sometimes helps identify reoccurring problems that would otherwise go undetected.

3. What are the disadvantages of identifying the top worst performing circuits of a utility?

Identifying the top worst performing circuits may not provide useful information. First, it is often difficult to accurately determine if the worst performance is a consistent problem, due to a concentration of weather events, or just a valid statistical variation from year to year. Second, it is difficult to account for variations in configuration between circuits. Third, it may not be the most efficient method of managing overall reliability. PSI has observed significant changes in relative ranking among circuits simply because of random outage events.

Power Quality

1. Based on your utility's interaction with its customers, is power quality an important concern of your customers? What aspects of power quality are of particular concern (voltage sag, high or low voltage, voltage spikes and transients, flickers, surges, harmonics, other)? Please explain. Are there typical types of customers or customer classes that voice a greater concern about power quality than others? Please explain. How has your utility addressed these concerns?

Power Quality is an important concern to all of our customer classes: residential, commercial and industrial. However, the level of concern varies widely among customers in different classes and among customers in the same class.

All classes of customers will voice concern about power quality issues. The amount of concern that is voiced is usually related to how susceptible the customer's electrical equipment is to power quality. A majority of power quality problems often arise within customer buildings. PSI works together with its customers to come up with solutions to power quality issues. In some cases, the most efficient solution to a power quality issue is for PSI to make modifications to PSI's delivery system. In other cases, the only way a power quality issue can be solved is for the customer to do something such as installing mitigation equipment or modifying their equipment, facility wiring or grounding. The majority of our

customers who have power quality concerns cooperate with us to implement proposed solutions that address the power quality concerns.

2. Does your utility have any program or plan in place specifically addressing power quality issues? Please explain. How have these programs or plans changed over the last five years?

Many power quality concerns are addressed through communication between customers and our Business Account Management group and our local T&D engineering support. In cases of more significant power quality issues, PSI addresses these concerns with a Power Quality group made up of four engineers and two technicians. This group is familiar with the utility system, customer equipment and solutions to specific power quality issues. Power quality issues which cannot be solved by our Companies' other service groups are forwarded to the Power Quality group. The Power Quality group then works directly with the customer to understand the customer's issues and equipment.

The Power Quality group has a four-part approach to power quality:

- 1) Education for employees and customers about identifying and solving problems.
- 2) Promote system and customer equipment compatibility through standards development.
- 3) Provide free diagnostic services to customers who believe PSI's power quality is a problem for them.
- 4) Improve PSI's delivered quality and reliability where practical.

The basic four-part approach to power quality has not changed over the last five years. The way it is specifically implemented changes over time as equipment and customer needs change. For example, when a better line of voltage monitors becomes available, the Power Quality group provides training on that monitor to the groups within our Company that need the newer technology. On the customer side, this might involve becoming familiar with a new technology that the customer could use to help alleviate power quality issues.

3. Does your utility collect/track any type of power quality related data? If so, what data is collected and how is it used by the utility?

Yes, PSI collects some power quality data for analysis of individual situations until the situation is resolved. PSI also has a few semi-permanent monitors stationed at some substations around the system that gather data such as harmonic distortion, voltage sags, unbalance, etc. These are normally used for incident analysis rather than system trend analysis.

4. Is power quality data used as a performance measure for compensation for any person(s), groups and/or divisions in your utility? Please explain what data is used and why.

No.

Leading Indicators

While it's important to restore service as quickly as possible following an outage, when practical, it is better to prevent the outage from occurring.

- 1. What are good leading indicators of possible service outages? Does your utility routinely monitor specific aspects of the electric operations or system with the goal of preventing service outages? What do you monitor and why?**

PSI relies on several different techniques / indicators. Outage history and the causes of the outages, which PSI monitors, can provide a leading indicator of possible service outages. The monitoring is then used to develop trends and to determine the effectiveness of planned, preventive maintenance tasks.

PSI's practices include, but are not limited to, the use of Dissolved Gas Analyses (DGA), infrared thermography techniques, ultrasonic techniques, and up-to-date testing procedures. The results of these efforts are then compared to established standards. In the event the results for a particular piece of equipment fall outside these parameters, action is taken to determine the cause of the problem and correct the situation. This information is entered into a maintenance management software tracking system, known as Maximo, where the data is stored, tracked, and analyzed. This analysis provides trending data on the substation equipment of Cinergy's utilities. Other practices include monthly substation visual inspections. The inspection results are also entered into Maximo. Many items found upon inspection are taken care of immediately. Those of a non-emergency nature are scheduled for work as soon as possible.

- 2. Does your utility have a routine inspection and maintenance plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.**

Yes. A variety of inspection and maintenance plans are in place with the intent of preventing the possibility of service outages. Vegetation management is a significant program and is discussed in other parts of this Data Response. Examples of other types of programs can be categorized as follows:

Transmission lines:

Aerial inspection is performed on transmission lines a minimum of three times per year. One of the three inspection patrols includes an infrared scan. Patrols include inspection for vegetation management and for general maintenance of the system. The inspection and maintenance procedures for transmission lines include the following:

- Aerial observation for general maintenance performed on yearly basis.

- Aerial observations for vegetation management performed on a yearly basis.
- Aerial infrared scan performed on a yearly basis.
- Ground line inspection and treatment of 5% of wood poles are performed on a yearly basis.
- Aerial observations are also performed on an as needed basis, dictated by system performance.
- Tower painting performed on an as needed basis.
- Climbing assessments performed on an as needed basis.

Distribution lines:

The inspection and maintenance procedures for distribution lines include the following:

- Inspection of distribution facilities on a five-year basis.
- Capacitor inspections performed on a yearly basis.
- Ground line treatment performed on an as needed basis.
- Coordination of protective devices performed on an as needed basis.

Substations:

Parts of the substation program are as follows:

- Monthly visual inspections.
- Infrared and ultrasonic scans are performed twice a year.
- Oil analysis for gases is performed a minimum of twice a year for power transformers.
- Routine refurbishment of equipment.
- Maintenance procedures for substation equipment including transformers, load tap changers, batteries, breakers, bus, capacitors, circuit switchers, regulators, etc.
- Maintenance requirements followed for mobile substations.

3. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

PSI has evolved from a maintenance philosophy that used fixed time intervals and/or the number of equipment operations to trigger equipment maintenance to a Condition Based Maintenance (CBM) philosophy. The CBM approach integrates the aspects of PSI's maintenance / monitoring systems in order to provide variance reporting and maintenance needs particular to an individual piece of equipment. This method also provides trending information germane to different styles of equipment. CBM practices allow PSI to take care of each piece of equipment according to the equipment's own set of dictates, as opposed to a routine maintenance schedule oriented to time and / or number of operations only. Changes to the transmission line inspection program include the capability to perform aerial infrared inspection that was added in 2001 with full implementation of the inspection capability beginning in mid-2002. Infrared inspection was

added to help identify potential problems that could not have been seen by visual inspection alone.

4. Has your utility made any study or analysis as to how successful your inspection and maintenance plan/procedure has been in preventing service outage? Please explain.

No formal study or analysis has been made at this time. PSI has not used the Condition Based Maintenance practice long enough to be able to adequately analyze of the results of the program. The data that has been collected, however, has documented many “saves” of major equipment. Analysis continues as to the overall effectiveness of this program.

5. Does your utility have a vegetation management plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

Yes. The vegetation management plans/procedures are as follows:

Distribution:

- PSI’s vegetation management plan for distribution circuits calls for circuits to be trimmed on a 48-month cycle. The procedure consists of clearing approximately ten feet from three-phase circuits including over-hanging limbs, and ten feet around single or two-phase circuits. Five feet of clearance is obtained for secondary, and swing clearance is provided for service drops.

Transmission:

- Transmission voltage circuits (69 kV and above) are maintained on a 48-month cycle. Circuits are trimmed to a minimum of fifteen feet from the conductor, or cleared to maintain the existing right-of-way or easement width.

These clearances are achieved with a combination of applying herbicides, mowing or hand-cutting brush, along with periodic trimming and/or removing trees that encroach or otherwise endanger the safe and reliable operation of the line.

Aerial patrols and other routine maintenance activities help to identify areas in need of “hot spot” trimming which is performed when vegetation growth exceeds the normal management cycle and impedes the proper operation of the T&D system.

6. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

The current vegetation management plan was implemented in January 2001. The previous plan utilized an approach which attempted to inspect all circuits every 24-months and trim only the problem areas identified. PSI now uses a vegetation management plan that calls for circuits to be trimmed over a four-year cycle.

7. Has your utility made any study or analysis as to how successful your vegetation management plan/procedure has been in preventing service outage? Please explain.

No. Since PSI is in the middle of the first cycle of vegetation management using the new standards, a formal study has not been concluded. Preliminary observations have indicated fewer tree related outages last year than in each the previous five years. The number of tree related events and emergency responses during severe weather have also seen a decrease when compared to past years.

8. Does your utility identify/track the age of equipment used in the production and delivery of electricity to the customer? Why or why not?

Yes. The age of distribution, transmission and substation equipment is tracked. For some equipment, age has been found to be one of the determining factors in replacement or refurbishment of that equipment. PSI also has the date that major pieces of substation equipment were manufactured in its equipment catalog. Over the years, equipment manufacturers change the design of their equipment. When replacement parts are needed, the manufacturer uses the “date of manufacture” to locate original design drawings. This allows them to re-manufacture replacement parts based on these original designs.

9. Could equipment age be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

The use of equipment age alone is not necessarily a good indicator of a potential service outage. Equipment that is replaced due to age alone generally provides no information on its condition, which could be used to predict health, and does not allow for a cost-effective refurbishment method. PSI takes into account many factors in assessing the health of equipment such as: last series of electrical tests, dissolved gas in oil, water in oil, thermography scans, etc. The use of age alone as an indicator could cause the replacement of major equipment that still contains many years of good service life.

10. Does your utility track equipment used in the production and delivery of electricity to the customer to identify equipment that tends to have a

premature or unpredicted failure rate or degraded performance level? Why or why not?

Yes. PSI regularly reviews equipment failure and service records to determine potential problem units and to correct problems before they become service failures. Many manufacturers have had certain designs that have been pinpointed as poor performers. PSI monitors, repairs and/or upgrades known poor performing equipment to attempt to minimize future problems.

Parts of the delivery system that exhibit trends of poorer performance or have known conditions that can lead to premature failure are monitored and inspected as a part of condition based maintenance programs. Other components of the system may be tracked, and are normally identified and focused on during inspection programs.

PSI tracks potential failures identified as part of the Condition Based Maintenance program along with outage related failures. Both potential failures and outage related failures (functional failures) are used to help determine maintenance practice requirements and changes.

11. Could the identification of equipment with premature or unpredicted failure rate or degraded performance level be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

It can be. Identified problem equipment can be monitored and appropriate steps taken.

12. Are there any other methods (e.g., infra-red inspections or radio frequency inspections) you carry out to help maintain and/or improve system reliability? Please describe the methods you use.

Techniques used by PSI include visual inspections, thermography, ultrasonics, dissolved gas in oil analysis, interruption current monitoring and power factor testing. Cinergy is currently evaluating other methods to evaluate equipment health such as transformer frequency response analysis, dissolved gas in oil analysis on oil circuit breakers, and on-line dissolved gas in oil monitors.

Setting Performance Standards

1. Does your utility set any type of performance standards relating to service reliability and quality as a method of determining employee and/or division performance for compensation purposes? What are these standards? How are they measured? How do they affect the overall compensation for a(n) employee and/or division?

Yes. See Performance Measures and Statistics Response 8.

2. Could similar standards be set by the Commission to help evaluate and compare the service quality of Indiana utilities? Please explain why or why not.

The Commission could set standards, however evaluations and comparisons must be used cautiously. Annual and regional weather variation, system configuration, customer density, data quality and a host of other factors have a very strong influence on overall performance. Normalizing SAIFI and CAIDI data just for weather is nearly impossible. Properly accounting for different configurations such as urban vs. rural is equally difficult.

Further, utilities are transitioning to more sophisticated TCOMS that normally record more outages than older systems. Each utility has a different system with varying degrees of sophistication. PSI is aware that even utilities using TCOMS from the same vendor may have different degrees of accuracy and accounting practices. Subtle features in different versions of TCOMS handle identical incidents differently and produce different reliability indices for the same event. Experience shows that new systems almost universally report more outages even when reliability remains the same.

3. If these standards are not appropriate to help evaluate and compare the service quality of Indiana utilities, please suggest some standards that would be appropriate.

PSI does not know of any such standards that are appropriate for comparison among utilities because, among other reasons, of the factors described in Performance Measures and Statistics Responses 5 and 7 above. It might be appropriate to compare a given utilities' performance against its own historical data, however, any such comparison should be over a long enough period of time to ensure that variations in performance statistics are not just the result of variations in weather or other uncontrollable events.

4. To date there has been little or no use of I. C. 8-1-2.5 by utilities to propose performance based rates that would tie utility incentives/penalties to reliability and other measurable performance criteria. Is there a problem with how I. C. 8-1-2.5 is structured that makes it inappropriate or ineffective as a vehicle for performance based rates? Please explain. From your perspective (utility, customer group, other) what are the pros and cons of performance based rates?

PSI doesn't know of any structural problems with the statute.

Safety:

- 1. Is your utility participating in any EPRI (or other organizations) research projects relating to safety? If yes, please describe the project(s) you are involved in and how it relates to safety issues addressed in this section of the data request.**

PSI is not involved in any EPRI study directly related to safety at this time. PSI and other Cinergy companies are active with the Edison Electric Institute, the American Gas Association, Midwest Energy Association and other organizations which provide us with a network to learn about both employee and public safety issues. In addition, we work with other companies who are actively pursuing the development of best practices. Participants normally receive summary data from the sponsoring company. Cinergy Services also has an engineering standards department that becomes a resource for both employee and public safety.

- 2. What actions to ensure public safety are taken, both by the utility and other emergency resources, when a live power line has come down? Please explain the activities from the time a live power line is reported down until it has been repaired or rendered safe.**

Electric system designs incorporate the use of protective devices to automatically disconnect equipment during a fault condition. Performance of these devices is generally very reliable, however, on some occasions fault current can be too low to operate these devices. For this reason PSI inspects wire down cases for hazardous conditions.

The procedure used for wire down calls is as follows:

- An accident or outage report is received by the Call Center, and a Call Center representative takes detailed information concerning the accident/outage.
- If lines are reported down, the Call Center representative informs the person to stay clear of the immediate area. The person reporting the incident is also informed not to try to perform any type of rescue until the area is secured. Information about the accident / outage is transmitted electronically by the Call Center to the System Operation Center.
- The System Operation Center notifies the local personnel on duty and dispatches them to the site of the accident / outage once they are called by the Call Center. The System Operations Center also will notify the local police, rescue, etc. as needed.

- Once the local personnel arrive on the scene, they evaluate potential dangers, barricade the area and determine what actions are needed to make it safe.
If the line down is energized, actions are taken to isolate the line to enable any rescue attempt.
If the line is already de-energized, then help will be provided to the other rescue squads present as needed.
- When the rescue is complete, the local personnel will coordinate cleanup and restoration of service with the rescue squads and the System Operation Center as necessary.

3. In situations where live power lines may be down in multiple locations, how is public safety ensured?

The same process discussed in the response to question 2 above is utilized. Additional employees will be called out as needed based upon determinations made at the scene in coordination with System Operation Center.

Police and fire department crews play a larger role in more catastrophic situations, helping to control public persons and keeping areas barricaded and secure.

4. In critical weather situations where widespread areas may experience outages or down power lines, is there any central coordination (beyond each individual utility) of the restoration of service and the repair of down lines? Please explain who does the coordination and what organizations are involved.

Cinergy Services' System Operation Center and district office personnel coordinate restoration of service. In the most severe cases, PSI will activate our storms and natural disasters plan, as discussed in Service Interruption and Outages Response 4, to determine if additional coordination/help is required accelerating repairs and restoring service.

5. What could be done to improve the public awareness of the hazards that may exist as a result of weather related power outage? How does your utility inform customers of these types of hazards?

PSI Corporate Communications attempts to communicate the presence of a hazard as promptly as possible to local media. PSI's local district personnel maintain a relationship with local fire, police, and rescue crews and inform them of a hazard as promptly as practical. PSI also has a number of demonstrations, such as our "live line" demonstration and various videotapes, Public Safety information and "Electric Universe" located on the Cinergy web site. As of last summer, Cinergy has designated an employee to be responsible for coordinating public safety efforts on a Cinergy wide basis.

6. What is the most typical accident involving utility facilities that happens to utility personnel and to non-utility/customers/the general public? What has your utility done to help try and alleviate these types of accidents?

Accidents involving utility personnel:

- Sprain and strain type injuries while performing work on facilities

Accidents involving non-utility personnel:

- Automobiles hitting company owned poles
- Contact with overhead lines by cranes or other equipment being utilized around overhead lines.
- Dig-ins to underground cable by contractors.

Steps taken by PSI to try to alleviate these types of accidents include:

- Educate employees during safety meeting, provide safety related materials explaining proper lifting techniques and provide the proper safety equipment to perform a job correctly.
- Educate the general public via live line demonstrations, utilization of Electric Universe, etc.
- Consider the design of roadways when placing poles in right-of-ways.
- Meet with contractors on site to point out existing dangers.
- Locate and mark all underground facilities for contractors before they dig.
- Establish a contractor database to create a better opportunity to communicate safety on a regular basis.

7. What is the current average term of employment for service and line crew personnel? Does your utility provide on-going safety training for your line and service crews? Please explain the types of training these crews receive.

The current average years of service of service and line crew personnel is approximately 22 years.

Yes, we provide ongoing safety training for our personnel including:

- 4 year apprentice program until achieving the level of lineperson A.
- Continued formal training for all incumbents on an as needed basis.
- Weekly crew safety meetings. (These meetings are focused on the work to be performed in the current week including reviews of any recent accidents.)
- Quarterly safety meetings. (These meetings are more formal in nature and cover many of the compliance issues as defined by OSHA.) Subjects reviewed include:
 - a) Hazardous condition communication
 - b) Hazardous materials
 - c) Confined space
 - d) Hearing protection
 - e) Bloodborne protection

- f) Lock-out, tag-out procedures
- g) Trenching and shoring
- h) Asbestos training
- i) Electric safety
- j) Fire extinguisher usage
- k) Respiratory protection
- l) Personal protective equipment
- m) Emergency action plans
- n) Forklift operation
- o) Lead awareness
- p) Work area protection
- q) Accident review

8. Commission rules currently require utilities to report accidents resulting in death. Do you think this rule provides useful information to the Commission? Please explain. Do you have any recommended changes that would make this rule more useful? Please explain.

PSI believes that such notification is useful in keeping the IURC informed. PSI has no suggestions for improving the rule, but is willing to work with the Commission if the Commission has concerns.

9. What other organizations or agencies must you report to when there has been an accident, injury or fatality? Please explain what must be reported, under what circumstances and in what time frame from when the incident occurred.

Excluding the reporting requirements of IURC we must report:

- Any accident resulting in union employee hospitalization is reported to union leadership as soon as possible or within the same day.
- Any employee fatality or the required hospitalization of 3 or more employees must be reported to IOSHA within 8 hours of the incident.

10. The Commission is aware that in preparation for Y2K utilities developed emergency operating plans (EOP). Does your utility continue to maintain and update an emergency operating plan? What circumstances or conditions is the EOP designed to cover? Is the EOP prepared and/or modified completely by utility personnel or do other organizations or agencies have input to the plan? Please explain how outside sources have input to the EOP. Does your utility routinely run drills on the EOP to check the effectiveness of the plan and to identify areas, which need improvement? Please describe your drilling procedure.

EOP plans continue to be revised and expanded since the Y2K preparations. They cover:

- Civil emergencies

- Evacuation
- Bomb threat planning and management
- Bulk power emergencies
- Disaster recovery
- Storms and other catastrophic situations

The programs have been developed and maintained in house however, consultants have provided input particularly to the computer network infrastructure recovery program. Also, PSI works and coordinates with the State Emergency Management Agency and county Emergency Management Agencies as requested.

Drills and readiness checks are conducted. Depending on the situation, PSI may conduct tabletop discussions with various levels of physical activation of back up facilities or detailed drills.

Customer Service:

- 1. Is your utility participating in any EPRI (or other organizations) research projects relating to customer service? If yes, please describe the project(s) you are involved in and how it relates to customer service issues addressed in this section of the data request.**

Not at present. PSI and/or Cinergy Services participate in a number of organizations that provide information, survey and research results and feedback in the Customer Service area. These organizations include, but are not limited to:

- Customer Contact Strategy Forum
- Society of Consumer Affairs Professionals
- Incoming Calls Management Institute
- Call Center Industry Advisory Council
- Edison Electric Institute
- Indiana Gas Association/Indiana Electric Association (Customer Service Committee)
- American Gas Association/Edison Electric Institute (Survey)
- Gartner & Giga Groups

Please Note: PSI believes that the entire organization is responsible for delivering quality customer service. However, for purposes of these Responses PSI is focusing on the portions of the organization with primary (although not sole) responsibility for direct customer contact and billing operations.

- 2. Please describe your utility's customer service philosophy and how your utility implements this philosophy.**

For Cinergy/PSI the "Customer Model" is the roadmap that determines how we serve our customers' needs. Our customer service representatives are trained to

make a difference in each and every customer's experience by understanding the variety of service channels we offer as well as providing quality service during each interaction.

Our Customer Model requires that all the service channels we offer provide accessibility and convenience when conducting business with PSI. In addition, our goal is to resolve customer concerns during their initial contact and exceed their expectations. We set a goal of demonstrating five Customer Model behaviors with every customer interaction and providing customers a variety of service channels to conduct business.

Cinergy Customer Model Behaviors

*"I make a difference in the customer's experience by...
showing respect,
listening,
taking ownership,
taking action,
and honoring commitments."*

The various service channels that Cinergy/PSI offers provide added convenience and accessibility for our customers. Those service channels are as follows:

- Call Center
- Field Offices
- Online Services
- Pay Stations
- Automated Phone System
- SpeedPay
- e-Bill (available in 2003)
- Business Service Center
- Key Account Management
- Regional Service Engineers
- Customer Relations Manager
- Economic Development Organization

3. How many employees are directly engaged in customer service types of activities and where do they fit in the utility's overall organizational structure? An organizational diagram maybe useful in responding to this question.

See attachments A, B, & C. There are approximately 600 (excluding contract employees) PSI and Cinergy Services employees in these organizations. Cinergy Services employees provide services for other PSI utility affiliates as well as for PSI.

- 4. Assuming there are a variety of activities that can be considered “customer service” please describe the different types of activities your utility classifies as “customer service” and how many employees are engaged in each activity.**

See attachments A, B, & C provided in Response 3 for a description of major activities for each area.

- 5. Please provide a brief description of the qualifications required by employees engaged in the various customer service activities described in response to the previous question. Have these requirements and protocols changed over the past five years? Please explain.**

Each area varies as to the qualifications of their employees depending on the type of job the employee will perform. For many of the management positions within Customer Services, employees are hired for positions, based on the following core competencies:

- Customer service skills
- Communications
- Team player
- Achievement orientation
- Innovation and continuous improvement
- Leadership (for those in supervisory roles)

Employees’ experience, attitude, work ethic, and skills also play a key role in determining the job they are hired to perform.

While some management positions are more general in qualifications other positions require more specific qualifications.

The core competencies have generally remained the same over the last five years, although they may have been described differently from time to time. As positions within the organizations have evolved over time additional skills have been needed, such as technological skills.

- 6. Please describe any equipment and/or facilities that are specifically designed to help the utility to communicate with its customers and to enhance customer service.**

PSI offers a variety of services that provide customers with accessibility, convenience, and quality customer service. Those services are as follows:

External Services

- Call Center – Our call center continues to provide excellent customer service, while answering over 1.5 million customer phone calls per year.
- Field Offices – Our customer service representatives handle numerous customer inquiries and bill payments each day.

- Online Services – Customers can check their account information, enroll in Budget Billing, turn on and turn off service, and report and view electrical power outage information.
- Pay Stations – A Pay Station offers customers more bill payment locations with longer hours of operation for customers' busy lifestyles.
- Automated Phone System – Customers can access their account balances, and verify payments. They can quickly report a power outage or find out if an outage has already been reported in their area.
- SpeedPay – Customers can make payments by electronic check or credit/debit card over the phone or via the Internet
- e-Bill – Our electronic billing program – e-Bill, will be offered to PSI customers in 2003. Our e-Bill program is free and provides added convenience to our customers who have Internet access.
- CinergyPSI.com – Our Web site provides up-to-date information to customers on a variety of topics including programs and services that help customers better manage their accounts. Timely information is featured on the home page, such as “Managing Winter Heating Bills”, to give customers quick access to information that can help them. Customers can also submit a request for tree trimming and report street light outages.
- Business Service Center – Cinergy Services recently developed and created a Business Service Center to improve the communication channels with commercial, industrial and governmental customers. The Business Service Center required investments in computer hardware, software and Call Center type technology that enables PSI to better communicate with customers to address their needs.
- Electronic Funds Transfer – A program that allows a customer to pay their utility bill electronically.
- Eclips – A password protected Internet site for business customers that enables them to access electronic bill images for Large Power System (LPS) bills. Accounts that are billed with demand data can access reports that show their demand intervals in 30-minute increments for the month. The site also has links for PSI programs and tariff information.
- PowerShare Website – A password protected Internet site that allows a PowerShare customer to obtain information about the program, register for participation, nominate load reductions when needed and confirm participation on a PowerShare event day.

Internal Services

Customer Services personnel have access to a number of internal data bases and software systems that provide access to a variety of information and customer data to help assist customers.

7. How does your utility evaluate the quality and performance of your customer service activities?

Customer Contact Center Call Monitoring:

Customer Service Representatives (CSRs) are monitored and evaluated on quality, on a minimum of three calls every six weeks by Quality Assurance (QA) Representatives. Phone calls are recorded, so QA Representatives can utilize the recorded calls to coach CSRs and review key components of the call. CSRs are able to review their individual evaluation results online. Results are available for the current month as well as year-to-date results. Two employees are dedicated full-time as QA Representatives. The QA Representatives focus the majority of their time on monitoring, coaching, and training. In addition to the QA Representatives monitoring and evaluating the CSRs on quality, the Team Leads also monitor each CSR every quarter and the supervisors monitor and evaluate each CSR two times per year. Coaching forms are used to establish expectations for the CSRs as well as evaluating the quality of the CSR.

Customer Contact Center Overall Performance:

CSRs overall performance is evaluated annually on 5 key areas. This evaluation determines the amount of their annual pay increase. The five areas they are measured on are as follows:

- Productivity
- Quality
- Absent time
- Overtime
- Miscellaneous

Surveys and Tracking Tools:

Customer Relations Managers, Key Account Managers, Business Service Specialists, Regional Service Engineers, and Economic Development Project Managers are also measured through multiple surveys and tracking tools. Each year a benchmark is established based on the previous year's accomplishments and three numerical achievement bands are developed from that benchmark.

Customer Satisfaction Surveys:

PSI's Customer Contact Satisfaction Survey and the annual J.D. Power study are used to benchmark KPI initiatives. The Customer Satisfaction results are communicated quarterly and the J.D. Power results are communicated annually.

J.D. Power Survey:

The J.D. Power study is a proprietary, independent survey used as a benchmark to establish KPI initiatives and goals. The J.D. Power survey is not tied to customer satisfaction performance at a Company level. This annual survey is conducted nationally with over 70 utility companies. This survey measures overall company satisfaction as well as customer satisfaction on the following five factors:

- Company Image
- Price and Value
- Power Quality and Reliability
- Billing and Payment

- Customer Service

This survey is conducted over the phone with approximately 200 randomly selected customers throughout PSI's service territory.

Account Management Satisfaction Survey:

This survey is sent to our largest commercial and industrial customers and asks them to evaluate the customer service level of their assigned account manager and PSI. The survey is designed on a numerical scale that measures various customer service attributes on a scale of 1-5 with 1 being poor and 5 being excellent.

Storm Restoration and Bulk Power Emergency:

The storm restoration process is implemented when there is a major storm/outage in PSI territory. The process is designed for Field Customer Relations employees to staff/assist in various company and community command centers to expedite communication and service restoration to the affected communities and customers.

Local Economic Development Organization Survey:

This survey is sent to all local Economic Development Organizations seeking evaluation of how well PSI has assisted/supported their efforts to attract/retain businesses in their communities. The survey is designed on a numerical scale that measures performance on a scale of 1-5 with 1 being poor and 5 being excellent.

Annual Account Service Reviews:

Each employee is expected to provide an annual account service review to all of his or her assigned accounts. These annual reviews include rate comparisons, reliability studies, PSI contact information and program explanations. They include an overall review of the business relationship between the Company and the customer. Each service review is custom tailored to address items of importance to the customer.

Business Service Center Satisfaction Level:

Customers who have had contact with our Business Service Center will be surveyed and asked to provide a numerical measurement of the customers' satisfaction with the services and processes employed by the business service center. This will be used to develop new customer service tools while enhancing existing ones.

Business Service Center Abandon Rate:

Measurement of the number of customers who contact our business service center and abandon their call before a representative is able to answer the phone. Abandon rate is measured in percentage.

Business Service Center Service Level:

A traditional measurement used in call centers, this measures the percentage of calls answered in a pre-determined time period. A “90 – 20” goal would be interpreted to mean, “90% of the calls will be answered in 20 seconds”. This is tracked through the existing telephone technology.

8. Is the compensation of employees, groups of employees or divisions tied to customer service performance? Please explain how this is done and whom this process affects.

Yes. Compensation for Cinergy/PSI employees is tied to customer service performance through the Customer Contact Satisfaction Survey. This survey measures the satisfaction level of residential customers on five key processes. These key processes are as follows:

- Billing (High bills, billing questions, etc.)
- Office Bill Payments (Customers who paid at our field office – over the counter)
- Turn On/Off (Requests to turn service on, off, or transfer to a new address)
- Service Failure (Electrical outages and emergency situations)
- Miscellaneous Service Orders (Service requests that are non-emergency)

We contract with an outside vendor that mails surveys monthly to a random sample of residential customers who have interacted with us in one of the five key areas. We then analyze the data internally, to determine process improvements.

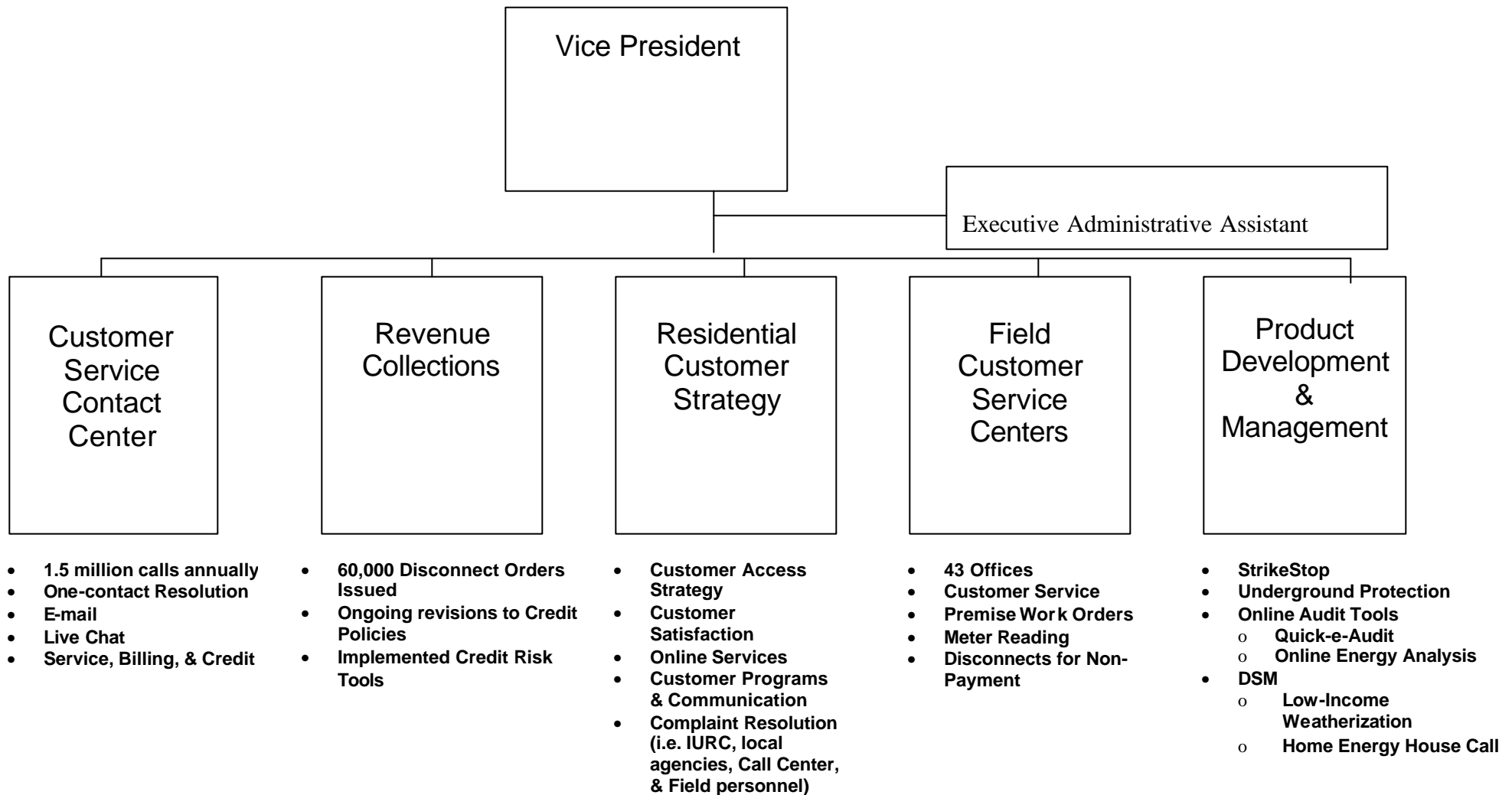
Management and union level (IBEW) satisfaction goals are set each year and satisfaction results are communicated regularly. An annual lump sum incentive is awarded for achievement on three separate measurements including customer satisfaction.

9. What methods or statistics are used to evaluate customer service performance? Please provide a description of the methods or statistics used.

Please see Responses 7 and 8.

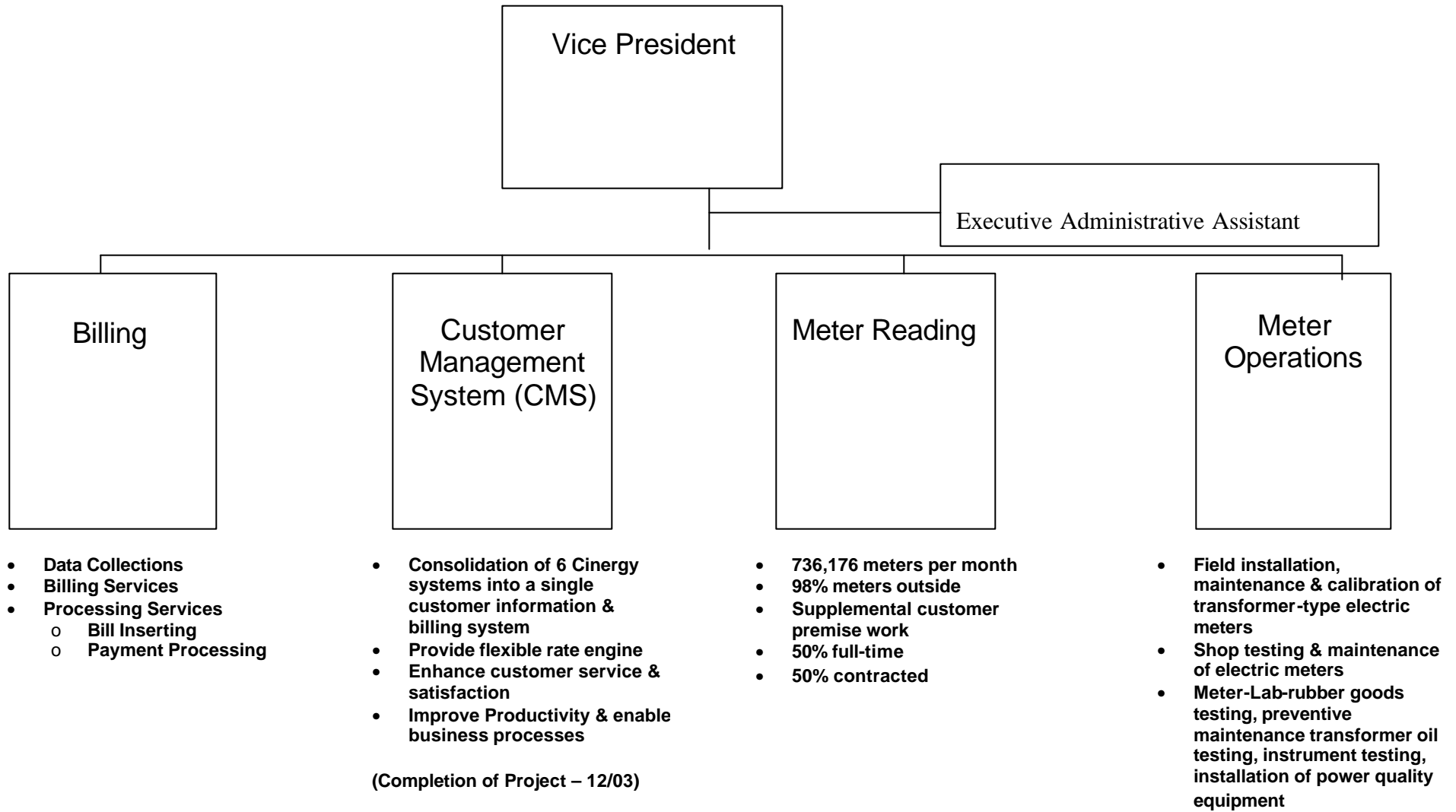
Attachment A

Customer Contact Services



Attachment B

Billing and Metering Services



Field Customer Relations – Attachment C

